

ID

TM40_Dip_Mat

Teach Mob – Visiting Professors

Academic year 2014/2015

2nd term
<p>COURSE TITLE Didactics of Mathematics 2</p>
<p>Scientific area Mathematics</p>
<p>Department of Mathematics “Giuseppe Peano”</p>
<p>Language used to teach English</p>
<p>Course summary This course is about the application of concept science and Meaning Equivalence Reusable Learning Objects (MERLO) to the teaching of quantitative literacy. The term meaning equivalence designates a commonality of meaning across several representations. It signifies the ability to trans-code meaning in a polymorphous - oneto-many - transformation of the meaning of a particular conceptual situation, through multiple representations within and across sign systems. The term ‘Conceptual Thinking’ is used to describe such ways of considering an issue; it requires the ability, knowledge, and experience to communicate novel ideas through alternative representations of shared meaning, and to create lexical labels and practical procedures for their nurturing and further development. Conceptual thinking and MERLO were developed, tested, and evolved since the 1990s by Uri Shafrir at the University of Toronto and Masha Etkind at Ryerson University in Toronto, Canada. The specific application to quantitative literacy has been presented in Etkind M, Kenett RS, Shafrir U (2010). The evidence based management of learning: diagnosis and development of conceptual thinking with meaning equivalence reusable learning objects (MERLO). In: 8th International conference on teaching statistics (ICOTS), Ljubljana, Slovenia. The course will cover the major elements of conceptual thinking and MERLO to problem solving activities. Students will be involved in interactive sessions.</p>
<p>Learning objectives</p> <ol style="list-style-type: none"> 1. Handling unstructured problems 2. Deconstructing concept science principles and knowledge domains 3. Designing and evaluating MERLO items within a concrete environment 4. Teaching quantitative literacy in an interactive environment
<p>Tutorship activities Basing on the MERLO model learnt in the course, the students will have some tutorship activities, where they will be asked use it in the analysis of some learning objects taken from the m@t.abel project.</p>
<p>Lab activities</p> <ol style="list-style-type: none"> 1. Analysis of the m@tabel domain knowledge 2. Application of the piston simulator to the design of experiments. The simulator can be downloaded from www.wiley.com/go/modern_industrial_statistics 3. Design and evaluation of MERLO items

Visiting Professor Profile

The Visiting professor has interests and expertise in:

- Statistical Methods and Applications of Statistics: in particular competencies in Strategic Planning and Quality Management; Data Mining and Risk Management; Statistical Process Control and Design of Experiments.
- Analysis of Meaning Equivalence Reusable Learning Objects in the teaching of quantitative literacy.
- Statistical diagnosis of conceptual thinking with meaning equivalence reusable learning objects.
- Teaching quantitative literacy in an interactive environment.

The Visiting professor's CV shows also a high international profile in research (publications in important scientific journals) and teaching (courses in prestigious universities of different countries).

Contact person at the Department

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